UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,021	12/30/2003	Hao Bi	CS23442RL	8438

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EXAMINER
DESIR, PIERRE LOUIS

ART UNIT	PAPER NUMBER
2617	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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	Application No.	Applicant(s)
	10/749,021	BI ET AL.
Office Action Summary	Examiner	Art Unit	
	PIERRE-LOUIS DESIR	2617	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>07 January 2008</u>.

2a) ☐ This action is **FINAL**.　　2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>20-23,25 and 27-37</u> is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>20-23,25 and 27-37</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a) ☐ All　b) ☐ Some * c) ☐ None of:

　　　1. ☐ Certified copies of the priority documents have been received.

　　　2. ☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
　　　　　application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)　Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)　Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments with respect to claims 20-23, 25, 27-37 have been

considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

3.   Claims 20-23, and 25 are rejected 35 U.S.C. 103(a) as being unpatentable over

Khayrallah, Pub. No. US 20030200499, in view of Fairman et al. (Fairman) U.S. Patent No.

6996722.

Regarding claim 20, Khayrallah discloses a method in wireless communications device,

the method comprising:

--receiving a message identifying a channel on which content will be transmitted (i.e., the

parameters of the selected traffic channel are sent to the mobile terminal 18 in a channel

assignment message that is transmitted on the calling channel or on a temporary channel, which

can both be referred to as a "call set-up channel." The mobile terminal 18 then leaves the call set-

up channel and commences transmitting and receiving on the assigned traffic channel) (see

paragraph 19); receiving first layer content information on a first channel (i.e. a temporal data

stream 30 is divided into multiple segments 31, 32, 33. Each segment is then encoded, wherein

different generated set of transmission are concurrently transmitted in separate communication

channels) (see paragraphs 28 and 33); receiving second layer content information on a second

channel (i.e. a temporal data stream 30 is divided into multiple segments 31, 32, and 33. Each

segment is then encoded, wherein different generated set of transmission are concurrently

transmitted in separate communication channels) (see paragraphs 28 and 33), at least one of the

first and second channels identified in the message (i.e., the parameters of the selected traffic

channel are sent to the mobile terminal 18 in a channel assignment message) (see figs. 3-4,

paragraphs 19, 28, and 33), the first and second layer content information is encrypted (i.e., Each

segment 31, 32, 33 is then encoded at blocks 41, 42, 43, respectively, utilizing a FEC code) (see

figs. 3-4, paragraphs 22, 28-33)---Khayrallah also discloses that the FEC code 26 may be

applied, along with other known coding techniques, such as interleaving, convolutional coding,

and the like, as an inner code. One or more outer codes, such as parity, **encryption**, Error

Correction Codes (ECC), or the like, may be applied to the FEC-encoded N transmission

symbols 28, to further enhance the reliability of the wireless communication from RBS 16 to

mobile terminals 18 (see paragraph 22). Thus, the first and second layer content is encrypted.

Khayrallah does disclose a method wherein a mobile terminal decodes the received

information (see figs. 3-4, paragraphs 22, 28-29, and 33-34).

Khayrallah, however, does not specifically disclose a method comprising decrypting the

first layer content information with a first key and decrypting the second layer content

information with a second key that is different than the first key.

On the other hand, Fairman discloses a method wherein it is provided a data

communication system comprising: a) a remote data source arranged to output a plurality of

ADUs (e.g., compressed video data are divided into ADUs); b) <u>encryption means for encrypting</u>
<u>a plurality of ADUs with different respective keys</u>; c) a communications network connected to
the encryption means; d) a customer terminal (i.e., mobile cellular phone) connected to the
communications network and arranged to receive encrypted ADUs via the communications
network; e) <u>key generation means located in the locality of the customer terminal and arranged to</u>
<u>generate a plurality of different keys for decrypting different respective ADUs</u> (see col. 3, line
57-col. 4, line 5).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the
invention to combine the teachings as described by Fairman with the teachings disclosed by
Khayrallah to arrive at the claimed invention. A motivation for doing so would have been to
prevent unauthorized dissemination of data.

Regarding claim 21, Khayrallah discloses a method (see claim 20 rejection) comprising
combining the first and second layer content at the wireless subscriber device (see paragraph 29).

Regarding claim 22, Khayrallah discloses a method (see claim 20 rejection) wherein the
wireless communications device is a broadcast/multicast subscriber device (see fig. 2, paragraphs
10 and 12), receiving first layer content information includes receiving first layer
broadcast/multicast content information (see paragraphs 28 and 33); receiving second layer
content information includes receiving second layer broadcast/multicast content information (see
paragraphs 28 and 33).

Regarding claim 23, Khayrallah discloses a method (see claim 20 rejection) receiving
first layer content information on a first channel includes receiving the first layer content
information on a first broadcast channel (see paragraph 28 and 33) (i.e., the data may be divided

into segments, each segment encoded separately, and transmission symbols from each encoded segment broadcast over a separate communication channel, which may be a TDMA time slot, a CDMA spreading encoding, an FDMA frequency, or a frequency hopping pattern) (see paragraph 10).

Regarding claim 25, Khayrallah discloses a method (see claim 20 rejection) wherein at least one of the first and second layer content information is encrypted (i.e., Each segment 31, 32, 33 is then encoded at blocks 41, 42, 43, respectively, utilizing a FEC code, wherein encryption is applied to the FEC-encoded transmission) (see paragraphs 22, 28 and 33).

Although Khayrallah discloses a method as described, Khayrallah does not specifically disclose a method comprising receiving at least one decryption key for the at least one decrypted first and second layer content information, decrypting the at least one decrypted first and second layer content information with the decryption key.

However, Fairman discloses a method wherein it is provided a data communication system comprising: a) a remote data source arranged to output a plurality of ADUs (e.g., compressed video data are divided into ADUs); b) encryption means for encrypting a plurality of ADUs with different respective keys; c) a communications network connected to the encryption means; d) a customer terminal (i.e., mobile cellular phone) connected to the communications network and arranged to receive encrypted ADUs via the communications network; e) key generation means located in the locality of the customer terminal and arranged to generate a plurality of different keys for decrypting different respective ADUs (see abstract and col. 3, line 57-col. 4, line 5).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described by Fairman with the teachings disclosed by Khayrallah to arrive at the claimed invention. A motivation for doing so would have been to prevent unauthorized dissemination of data.

4.   Claims 27-30, 32, 34-37 are rejected 35 U.S.C. 103(a) as being unpatentable over Khayrallah, in view of Ranta-Aho et al. (Ranta-Aho), Pub. No. US 20040081125, and Fairman.

Regarding claim 27, Khayrallah discloses a method in wireless communications network infrastructure entity, the method comprising: transmitting first layer broadcast/multicast service content information on a first channel (i.e. a temporal data stream 30 is divided into multiple segments 31, 32, and 33. Each segment is then encoded, wherein different generated set of transmission are concurrently transmitted in separate communication channels) (see paragraphs 28 and 33); transmitting second layer broadcast/multicast service content information on a second channel (i.e. a temporal data stream 30 is divided into multiple segments 31, 32, and 33. Each segment is then encoded, wherein different generated set of transmission are concurrently transmitted in separate communication channels) (see paragraphs 28 and 33), the first and second channels are downlink channels (i.e., from the radio base station to the mobile station) (see fig. 1, paragraphs 28 and 33), the first layer broadcast/multicast service content information related to the second layer broadcast/multicast service content information (i.e., the same data is divided into segments. Therefore the divided segments are related to each other) (see paragraphs 10 and 28).

Although Khayrallah discloses a method wherein content is transmitted on a broadcast channel, Khayrallah does not specifically disclose a method wherein at least one of the first and second channels is a shared broadcast channel and comprising encrypting the first and second layer broadcast/multicast service content information using different encryption keys before transmitting.

However, Ranta-Aho discloses a method wherein downlink shared channel is used for multicasting (see paragraphs 17 and 46).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described by Khayrallah with the teachings described by Ranta-Aho to arrive at the claimed invention. A motivation for doing so would have been to save network resources.

However, the combination of Khayrallah and Ranta-Aho does not specifically disclose a method comprising encrypting the first and second layer broadcast/multicast service content information using different encryption keys before transmitting.

However, Fairman discloses a method wherein it is provided a data communication system comprising: a remote data source arranged to output a plurality of ADUs (e.g., compressed video data are divided into ADUs); and encryption means for encrypting a plurality of ADUs with different respective keys (see abstract and col. 3, line 57-col. 4, line 5).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described by Fairman with the teachings disclosed by Khayrallah and Ranta-Aho to arrive at the claimed invention. A motivation for doing so would have been to prevent unauthorized dissemination of data.

Regarding claim 28, Khayrallah discloses a method (see claim 27 rejection) wherein transmitting a message identifying at least one of the first and second channels before transmitting the first and second broadcast/multicast service content information (i.e., transmission of channel assignment message) (see paragraph 19).

Regarding claim 29, Khayrallah discloses a method (see claim 27 rejection) comprising transmitting the first layer broadcast/multicast service content information and transmitting the second layer broadcast/multicast service content information substantially simultaneously (i.e., concurrently) (see paragraph 28).

Regarding claim 30, Khayrallah discloses a method (see claim 27 rejection) wherein transmitting the first layer broadcast/multicast service content information and transmitting the second layer broadcast/multicast service content information with sufficient temporal proximity to enable substantially synchronized integration of the first and second layer broadcast/multicast service content information by a recipient (see paragraphs 28 and 33).

Regarding claim 32, Khayrallah discloses a method (see claim 30 rejection) comprising transmitting third layer broadcast/multicast service content information on a second channel, the third layer broadcast/multicast service content information related to the first and second layer content information (see paragraphs 28 and 33).

Although, Khayrallah discloses a method as described, Khayrallah does not specifically disclose a method wherein the channel is a shared channel.

However, Ranta-Aho discloses a method wherein downlink shared channel is used for multicasting (see paragraphs 17 and 46).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described by Khayrallah with the teachings described by Ranta-Aho to arrive at the claimed invention. A motivation for doing so would have been to save network resources.

Regarding claim 34, Khayrallah discloses a method (see claim 27 rejection) the first layer broadcast/multicast service content information is baseline broadcast/multicast service information transmitted on a broadcast channel (i.e., basic subgroup) (see claim 18 of the reference); the second layer broadcast/multicast service content information is baseline broadcast/multicast service enhancement information transmitted on a second shared broadcast channel (i.e., enhanced subgroups) (see claim 18 of the reference).

Regarding claim 35, Khayrallah discloses a method (see claim 27 rejection) wherein at least one of the first and second layers capable of being decoded (i.e., processed) and used without the other of the first and second layers (see paragraph 29).

Regarding claim 36, Khayrallah discloses a method in broadcast/multicast subscriber device, the method comprising: receiving first layer content information on a first channel (see paragraph 28); receiving second layer content information on a second channel (see paragraph 28), at least one of the first and second channels is a broadcast channel (i.e., wireless channel that supports a multicast service) (see paragraph 28).

Although, Khayrallah discloses a method as described, Khayrallah does not specifically disclose a method wherein the channel is a shared channel.

However, Ranta-Aho discloses a method wherein downlink shared channel is used for multicasting (see paragraphs 17 and 46).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described by Khayrallah with the teachings described by Ranta-Aho to arrive at the claimed invention. A motivation for doing so would have been to save network resources.

Khayrallah, however, does not specifically disclose a method comprising decrypting the first layer content information with a first key and decrypting the second layer content information with a second key that is different than the first key.

On the other hand, Fairman discloses a method wherein it is provided a data communication system comprising: a) a remote data source arranged to output a plurality of ADUs (e.g., compressed video data are divided into ADUs); b) encryption means for encrypting a plurality of ADUs with different respective keys; c) a communications network connected to the encryption means; d) a customer terminal (i.e., mobile cellular phone) connected to the communications network and arranged to receive encrypted ADUs via the communications network; e) key generation means located in the locality of the customer terminal and arranged to generate a plurality of different keys for decrypting different respective ADUs (see col. 3, line 57-col. 4, line 5).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described by Fairman with the teachings disclosed by Khayrallah to arrive at the claimed invention. A motivation for doing so would have been to prevent unauthorized dissemination of data.

Regarding claim 37, Khayrallah discloses a method (see claim 36 rejection) comprising integrating the first and second layer content information at the wireless communications device (see paragraph 29).

5.   Claims 31 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Khayrallah, Ranta-Aho, and Fairman, further in view of Hsu, Pub. No. US 20020141391.

Regarding claim 31, the combination (Khayrallah, Ranta-Aho, and Fairman) discloses a method as described (see claim 27 rejection).

Although the combination discloses a method as described, the combination does not specifically disclose a method comprising transmitting the second layer broadcast/multicast service content information on a dedicated channel.

However, Hsu discloses a method wherein broadcast content is transmitted on a dedicated broadcast (see paragraph 70).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described by Khayrallah, Ranta-Aho, and Fairman with the teachings of Hsu to arrive at the claimed invention. A motivation for doing so would have been to improve user perception in broadcast quality.

Regarding claim 33, the combination (Khayrallah, Ranta-Aho, and Fairman) discloses a method as described (see claim 27 rejection).

Fairman, however, does disclose a method wherein keys (i.e., reliability information) to decrypt received content are sent via a communication network to one or more terminal, the combination does not specifically disclose a method comprising transmitting reliability

information on a third channel, the reliability information for decoding at least one of the first and second layer broadcast/multicast service content information.

However, Hsu discloses a method wherein encryption information (i.e., reliability information) to decrypt a content is provided over a dedicated channel during a packet data session (see paragraph 67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described by the Khayrallah, Ranta-Aho, and Fairman with teachings disclosed by Hsu to arrive at the claimed invention. A motivation for doing so would have been to prevent unauthorized dissemination of data.

Conclusion

6.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to PIERRE-LOUIS DESIR whose telephone number is (571)272-7799. The examiner can normally be reached on Monday-Friday 9:00AM- 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne Bost can be reached on (571)272-7023. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

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like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Pierre-Louis Desir/
Examiner, Art Unit 2617

/DWAYNE D. BOST/
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